

ABSTRACT

A semiconductor manufacturing apparatus comprising: a plurality of vacuum chambers corresponding to a plurality of processing sections necessary for manufacturing a semiconductor device; an exhaust device connected to each vacuum chamber; a plate shaped guide plate arranged at the bottom of each vacuum chamber and having a plurality of gas emission holes; and a gas supply source for supplying gas to the gas emission holes, wherein the plurality of vacuum chambers are adjacent to each other by way of a shutter, one of the two adjacent vacuum chambers includes a tray mounted on the guide plate for mounting a substrate to be performed with a predetermined process, a conveying function section having a conveying arm for moving the tray from one vacuum chamber to the other vacuum chamber along the guide plate, and a controlling function section, the controlling function section performing the control so as to open the shutter to communicate the two adjacent vacuum chambers, emit gas from the gas emission holes of the guide plate of the vacuum chambers, and move the tray in one vacuum chamber, which is floated by the emitted gas, from the guide plate of one vacuum chamber to the guide plate of the other vacuum chamber along the guide plate by means of the conveying arm.